reconfiguring the frequency configuration of the payload of the reconfigurable satellite;

repositioning a satellite from a network position; and

moving the reconfigurable satellite into the network position.

28. (Amended) A method of configuring a satellite comprising:

deploying a reconfigurable satellite;

storing frequency tuning information in a routing table;

transmitting reconfiguration instructions to said satellite;

reconfiguring the frequency configuration of the payload of the reconfigurable satellite in response to the tuning information in the routing table.

REMARKS

Applicant wishes to thank the Examiner for considering the present application. In the Office Action dated November 12, 2002, claims 1-8, 10-13 and 15-31 are pending in the application. Applicant respectfully requests the Examiner for reconsideration.

Claim 1 stands rejected under 35 USC §103(a) as being unpatentable over *Sherman* (6,021,309) in view of *Floury* (5,963,845) in further view of Brown (6,157,621). Applicant respectfully traverses.

Claim 1 is directed to a satellite system that has at least one reconfigurable satellite. That is, one reconfigurable satellite may be positioned into the place of another satellite. This is desirable, for example, when one satellite is malfunctioning or is about to run out of fuel. The reconfigurable satellite has a routing table storing tuning information therein and a controller located on the satellite coupled to the communications control circuit. The controller controls the ***frequency reconfiguration*** of the communications control circuit through the programmable frequency synthesizer in response to the tuning information from the routing table.

With respect to *Sherman* and *Floury*, the Examiner states that, "...a routing table storing tuning information, for the synthesizer tuning" is not shown. The Examiner cites the *Brown* reference for teaching a routing table having the synthesizer tuning information. Applicant respectfully submits that the *Brown* reference does not teach nor suggest a routing table having tuning information to control the frequency reconfiguration of the control circuit. The routing table of the *Brown* reference appears to be a conventional routing table that is used to store the desired path of the communication. The *Brown* reference is directed to a satellite communication system that includes about 840 satellites in low earth orbit satellite that intercommunicate. On page 5 the Examiner states, "Brown considered the synthesizer 284, 308, in the reconfiguring circuit, for tuning to the frequency according to the routing table above. Brown considered the utilization of the on-board computer, the adaptive routing processor for selecting the best route pathway according to routing table." The section cited by the Examiner neither teaches nor suggests a routing table changing the frequency reconfiguration of the communication control circuit through the programmable synthesizer. Applicant respectfully submits that the routing cache memory is merely a standard routing table that communicates the route of the signal to the next satellite in the system. In Col. 43 of the *Brown* reference it is stated that, "Hardware and software that are collectively called the 'router' must continually adapt to the changing topology. The time varying network topology is irregular, unlike conventional regular networks that utilize ring, cube or star topologies." As further stated in Col. 43, line 24: "The network topology also changes when new satellites are deployed, when the useful lives of old satellites come to an end, or when satellite and link failures occur. The traffic density or 'load' on links changes randomly due to normal traffic fluctuations." While it is contemplated that new satellites are to be deployed into the system or that old satellites will ultimately fail, no teaching or suggestion is provided for frequency reconfiguration. As is stated in Col. 44, lines 32-35: "The constellation uses the 20 and 30 GHz frequency bands for communications between Earth and the constellation, and the 60 GHz band for communicating among

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the satellites." Thus, no teaching or suggestion is provided for changing the frequency of communication. Choosing a routing path is not the same as changing the frequency of the programmable frequency synthesizer.

Claims 2-5, 7, 10-13, and 15-17 stand rejected under 35 USC §103(a) as being unpatentable over *Sherman* in view of *Floury* in further view of *Wiswell* (6,205,319). Claim 6 stands rejected under 35 USC §103(a) as being unpatentable over *Sherman* in view of *Floury* in further view of *Black* (6,377,561). Claim 8 stands rejected under 35 USC §103(a) as being unpatentable over *Sherman* in view of *Floury* in further view of *Galvin* (6,182,927). Applicant respectfully traverses.

None of the references teach or suggest storing the tuning information in a routing table and then using that information to do the reconfiguring. The *Floury* reference teaches reconfiguring a satellite but the reconfiguration is done directly without using a routing table as taught in the present invention. Also, neither the *Wiswell* nor the *Sherman* reference teaches using a routing table for this purpose. Applicant respectfully requests the examiner for reconsideration of these rejections. The claims dependent on claims 1 and 15 recite further limitations thereto. Therefore Applicant respectfully requests reconsideration of these claims as well.

Claims 18-31 stand rejected under 35 USC §103(a) as being unpatentable over *Sherman* in view of *Floury* in further view of *Reesor* (4,472,720). Applicant respectfully traverses.

Claims 18-31 are directed to a method for configuring a satellite system. The system uses a reconfigurable satellite that has reconfiguration instructions transmitted thereto. Claims 18 and 28 have been amended to clarify that the frequency configuration of the payload is reconfigured. A satellite from the network is repositioned and the reconfigurable satellite is moved into the network position. Applicant respectfully submits that *Sherman* in view of *Floury* does not teach or suggest the repositioning of a satellite and the Examiner agrees on page 10 which states, "In the above, it does not include the repositioning a satellite."

The Examiner has cited the *Reesor* reference for the teaching of repositioning a satellite. Although the *Reesor* reference teaches repositioning a satellite, the repositioning is only a slight repositioning in response to a correction signal transmitted by a ground station transmitter means. The resource system is a system of geosynchronous satellites that may be adjusted during the operation to maintain a relative position therebetween. The satellites always maintain a generally similar position. The payload in *Reesor* thus does not need to be configured.

Therefore, no teaching or suggestion is provided in the *Reesor* reference for replacing one satellite with another as well as reconfiguring a payload. Likewise, claims 19-21 are further limitations of claim 18 and are also believed to be allowable for the same reasons set forth above.

Claim 28 is similarly directed to a method of configuring a satellite including the step of reconfiguring the frequency configuration of the payload of the reconfigurable satellite in response to the tuning information in the routing table. Claims 29-31 are further limitations of claim 28 and are also believed to be allowable for the same reasons.

In light of the above amendments and remarks, Applicant submits that all objections and rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

Date: December 13, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

18. (Amended) A method of configuring a satellite system having a plurality of satellites comprising the steps of:

deploying a reconfigurable satellite;

transmitting reconfiguration instructions to said satellite;

reconfiguring the frequency configuration of the payload of the reconfigurable satellite;

repositioning a satellite from a network position; and

moving the reconfigurable satellite into the network position.

28. (Amended) A method of configuring a satellite comprising:

deploying a reconfigurable satellite;

storing frequency tuning information in a routing table;

transmitting reconfiguration instructions to said satellite;

reconfiguring the frequency configuration of the payload of the reconfigurable satellite in response to the tuning information in the routing table.

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